



FLIRT H₂

SBCTA, San Bernardino County
Transportation Authority, USA

The FLIRT H₂ is a two car Regional Train with Hydrogen PowerPack for San Bernardino County Transportation Authority. It is based on the existing FLIRT Diesel Multiple Unit (DMU) for SBCTA. Many components and subsystems are identical.

The Hydrogen Train for the SBCTA is the first vehicle in the new FLIRT H₂ product family. At the same time the FLIRT H₂ will be the first Hydrogen Train in the US. The project is supported by the State of California. The new train will be operated on the 9-mile route from San Bernardino to Redlands University and will perform up to 16 trips per day. This means that the vehicle will have a total daily mileage range of 300 up to 380 miles (480 km up to 600 km).

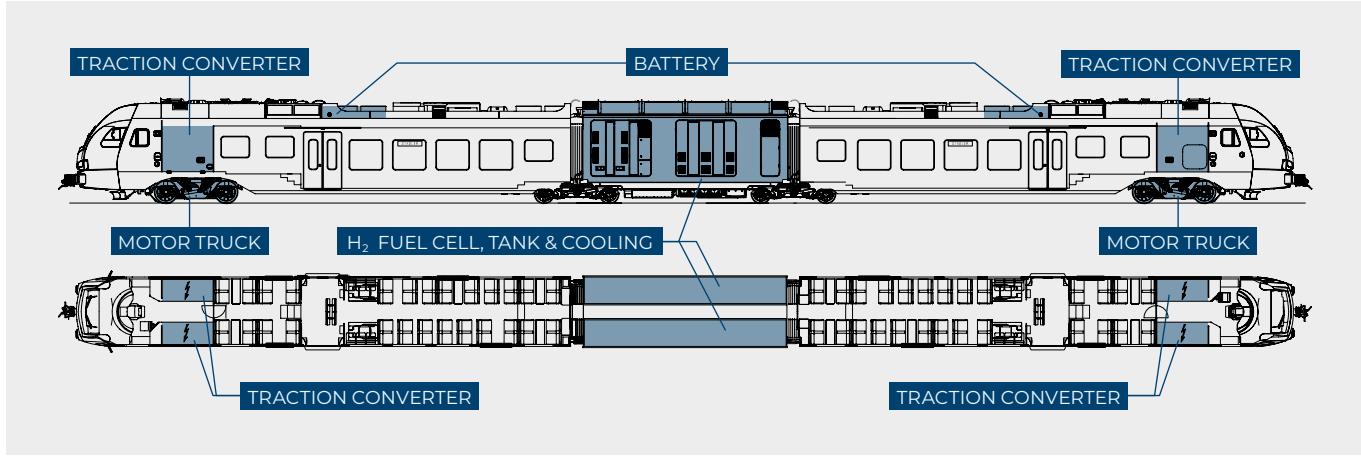
Being a member of the FLIRT family, the FLIRT H₂ has the same modular drive technology: The Multiple Unit is equipped with a scalable PowerPack, that is using modular fuel cells, hydrogen tanks and batteries (on top of the end car) that can be tailored to the requirements of different operation schemes. The FLIRT H₂ with its scalable PowerPack is able to drive in train constellations from two up to four cars. Of course, the FLIRT H₂ is also available with a pantograph, to be operated in the most energy efficient electric mode, under the wire and to save hydrogen.

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Technical features

Technology

- Emission-free driving with hydrogen
- Emission-free driving in electric mode (optional)
- Suited for Californian Climate
- LTO Batteries for high recuperation
- Sealed modular H2- storage in the PowerPack
- Lightweight Aluminium Carbody

Comfort

- Powerful, redundant air-conditioning layout
- Comfortable seats with tables
- Designed to be accessible to disabled and ADA compliant passenger compartment people
- Wide doorways
- Level entry, low floor

Safety

- Crash design according to FRA and EN standards
- Fire-protection and -detection systems
- Passenger Information and Communication systems
- Hydrogen storage completely separated from passenger area

Technical data

Customer	San Bernardino County Transportation Authority, California, USA
Operation	California, USA
Gauge	1435 mm (4'-8.5")
Designation	FLIRT H2
Wheel arrangement	Bo'2'2'Bo' (B-2-2-B)
Number of vehicles	1
Commissioning	2024
Seats	116
Folding seats	12
Standing capacity 4/m²	120
Floor height	Low Floor 610 mm (24.02") High Floor 1,210 mm (47.64")
Door width	1,300 mm (4'-3.18")
Longitudinal strength	1,500 kN (337.000 lbs)
Length over coupler	51,500 mm (168'-11.54")
Width	2,980 mm (9'-9.32")
Height	4,312 mm (14'-1.77")
Wheel base	Motor bogie 2,500 mm (98.43") Trailer bogie 2,700 mm (106.3")
Max. dynamic brake	1450 kW
Max. power	700 kW
Ttractive effort	160 kN (36.000 lbs)
Max. Speed	127 km/h (79 mph)
Range	460 km (> 286 miles)
Max axle load	20 t (44.000 lbs)